# 國立台灣科技大學 114學年 第2學期　課程大綱

## Spring 2026 NTUST Course Outline

授課教師：孫世勝

Instructor:Shih-Sheng Sun

課程名稱：高等無機化學

Course Title：Advanced Inorganic Chemistry

2026/11/3

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| 課程代號：CH5111701<br>Course Code<br>學分數：3<br>Credits | 必選修：選修/半學年<br>Required/Electve:Elective/Half Yr.<br>先修課程：<br>Prerequisites |
| 節次教室：F2(IB-607) F3(IB-607) F4(IB-607)<br>Time/Location | |
| 專業核心能力：<br>Core Professional Competencies | |
| 課程網址：https://sites.google.com/view/sssunlab/<br>Course Website | |
| 課程宗旨：<br>Course Objectives | An introduction to physical inorganic chemistry for the advanced graduate students. Topics covered include chemical structure and bonding theory in molecular systems and various spectroscopic techniques focusing on using these tools to address problems in inorganic chemistry. |
| 課程大綱：<br>Outline of Lectures | 分子光化學/光物理、配位場論、晶體場論、強場與弱場的差異、配位化合物之分子軌域理論、配位化合物<br>之電子光譜、對稱與反應途徑、配位化學。 Principles of Molecular Photochemistry/Photophysics, Ligand Field Theory; Crystal Field Theory; Difference Between Strong and Weak Field; Molecular Orbital Theory of Complexes; Electronic Spectroscopy, Symmetry and Reaction Path; Coordination Chemistry. |
| 授課方式：<br>Method of Instruction | 講授 Lecture：0%<br>分組討論 Group discussion：0%<br>案例研討 Case study：0%<br>操做練習 Practical exercises：0%<br>講授 Lecture：% |
| 教科書：<br>Textbooks | |
| 參考書目：<br>References | 1. Modern Molecular Photochemistry of Organic Molecules, Nicholas J. Turro, V. Ramamurthy, J. C. Scaiano, 2010<br>2. Principles of Fluorescence Spectroscopy, 3rd edition, J. R. Lakowicz, 2007<br>3. Solvent and Solvent Effects in Organic Chemistry, 3rd edition, Christian Reichardt, 2003.<br>4. “Excited states and Photochemistry of Organic Molecules” by M. Klessinger and J. Michl (VCH) |
| 修課須知：<br>Notice | |
| 評量方式：<br>Grading | Homework, quiz, exam, class performance |

備註說明：
Notes